REMARKS

Applicants have now revised the application in consideration of the comments and observations made during the telephone interview of December 27, 2002 and in view of the Advisory Action of November 13, 2002.

The Office Action and Advisory Action

Claims 1-18 were presented for examination.

Applicants gratefully acknowledge the Examiner's indication as to the allowance of claims 6-8 and 11-14, as well as the allowable subject matter in claims 9, 10, 15, 17 and 18.

Claims 1-5 and 16 stand rejected as being anticipated by Dhuler et al. (U.S. Patent No. 5,962,949).

In the Advisory Action of November 13, 2002, a first Amendment After Final was not entered. The stated reasons were that certain proposed amendments to the claims related to the "electrical conductor material" and the amendment of claim 16 required additional consideration not appropriate.

Response to Advisory Action

In response to the Advisory Action, Applicants have cancelled claim 16 from further consideration. Further, during the telephonic interview, the discussion of changes to address § 112 issues were discussed, and the Examiner agreed that the proposed changes in this amendment are appropriate to provide consistent use of language. For these reasons, it is submitted the issues raised in the Advisory Action have been addressed.

The Claims Distinguish Over the Cited Art

In view of the cancellation of claim 16, Applicants then discussed during the telephonic interview the rejections of claims 1-5.

It was noted that in rejecting claim 1, layers 52 and 54 of Dhuler et al. were recited as being equivalent to the "ribbon hinge structure" of independent claim 1. Thereafter, heater 56 was recited as being equivalent to a "electrical conductor" (now amended to "electrical conductor material"), of claim 1. During the interview, Applicants explained the structural distinctions they believe to exist between Dhuler et al. and the language of claim 1.

Specifically, Applicants noted that claim 1 included language that the electrical conductor material was "carried on at least a portion of a surface of the ribbon hinge structure," while on the other hand in Dhuler et al. the electrical conductor material (heater) was embedded within layers 52 and 54.

The Examiner made the point that the "surface" of claim 1 could be interpreted in its broadest sense to cover this embedded structure design of Dhuler et al.

It was suggested that if claim 1 were to include more specific reference to the surface as being an upper outer surface of the ribbon hinge structure, that such language would distinguish over the Dhuler et al. structure.

In consideration of this position, Applicants have hereby amended claim 1 to recite that the ribbon hinge structure, which is formed on the device layer of the silicon-on-insulator wafer has "an upper outer surface." It is then further noted that the electrical conductor material is carried on at least a portion of this upper outer surface.

It is submitted this language provides the specific recitation distinguishing over Dhuler et al.

For this reason, it is respectfully submitted claim 1 is now distinguished. As claims 2-5 refer to and further define this now-distinguished claim, it is submitted these claims are also distinguished.

CONCLUSION

For the reasons detailed above, claims 1-15 and 17-18 are now in condition for allowance. An early notice to that effect is therefore earnestly solicited.

Respectfully submitted,

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Attachment: Version With Markings to Show Changes Made

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please substitute amended claims 1, 5, 9, 10 and 15 for pending claims 1, 5, 9, 10 and 15 as follows:

1. (Twice Amended) A hinge for use in a micro-assembly employing electrical power supplied from an electrical power source, the hinge comprising:

a silicon-on-insulator wafer including a bottom substrate layer, a middle buried oxide layer and a single crystal silicon device layer;

a ribbon hinge structure formed in the device layer of the silicon-on-insulator wafer and having an upper outer surface, wherein the ribbon hinge structure is flexible and capable of movement out of the plane of the device layer; and

an electrical conductor material carried on at least a portion of [a] the upper outer surface of the ribbon hinge structure.

5. (Twice Amended) The invention according to claim 1 wherein the ribbon structure has at least one of (i) an isolation region formed within the ribbon structure, and within which is deposited the electrical [conduction] conductor material, or (ii) an area of insulation material which has been deposited and then patterned on the ribbon structure, wherein conductors can then be placed on top of the insulation material.

9. (Amended) The invention according to claim 6 wherein the micro-device includes an isolation region, formed within the micro-device, and in which the electrical [conductive] conductor material is deposited.

10. (Twice Amended) The invention according to claim 6 further including an isolation region formed within the ribbon structure, and within which is deposited the electrical [conductive] conductor material.

15. (Twice Amended) The invention according to claim 6 wherein the ribbon

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structure is configured with a mechanical integrity which permits application of a lifting out-of-plane mechanical torque to lift the [out-of-plane device] micro-device from 0° which is in [the] a horizontal plane, to 90° or more out of the horizontal plane.

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